



DESCRIPTION

The Model A-2401 offers a low-cost, high performance back-up to users of the CLUSTER/ONE Model A Local Computer Network. This high-speed cartridge tape drive uses 1/4-inch, 450 foot tape cartridges which hold over 20M bytes of formatted data.

Operating in the "streaming" mode, the Model A-2401 can record 8000 bits per inch of data at 30,000 bytes per second, making it possible to write 20M bytes of data on one cartridge in under 12 minutes. The tape drive operates from Nestar's Network File Server - a dedicated microcomputer that controls access to system hard and floppy disk storage for the network - and requires less than 10 minutes to create or restore a backup tape for the Nestar 16.5M byte Winchester hard disk. The tape back-up system can be used with any capacity storage on the network.

Nestar's state-of-the-art streaming drive incorporates two key features:

- an incremental back-up and restore feature which permits the user to backup only the sections of the disk that have been modified since the previous back-up
- error checking of data as it is being recorded on tape. This is accomplished by a system of double tape heads - as one head writes the data, a second head reads and verifies the newly written data. If an error is detected, a signal is given to rewrite the block in question.

KEY FEATURES

- full and incremental backup and restore software provided for both the 16.5 and 33M byte Nestar hard disks
- 30,000 bytes per second data rate (20M bytes in under 12 minutes; 16.5M bytes in under 10 minutes)
- DMA access to achieve full speed of data transfer
- CRC recording for error detection
- soft error rate less than one in 10^8 bits (one bit in 12M bytes)
- hard error rate less than one in 10^{10} bits (one bit in 1200M bytes)
- digital encoding of data at 8000 bits per inch (1000 bytes per inch)
- back-up tapes contain time/date stamp for better operations control
- 97% utilization of media
- off-line utility that runs on the Network File Server station
- certified, industry-standard 1/4-inch, 450 foot tape cartridges, available from Nestar

SPECIFICATIONS SUMMARY

Performance Specifications

Data Handling

Transfer rate: 30K bytes/sec. @ 30 IPS
Capacity (unformatted): 21.6M bytes per 4 tracks
Capacity (formatted): 20Mbytes per 4 tracks
Recording form: 4 track serpentine
Head format: read while write with separate erase
Number of recorded tracks: 4
Recording density: 8000 bits per inch (1000 bytes per inch)

Data Reliability

Recoverable error rate: no more than one in 10^8 bits
Non-recoverable error rate: no more than one in 10^{10} bits

Tape Motion

Speed, Read/Write: 30 IPS
Speed, Rewind: 90 IPS
Speed Variation: short-term with cartridge loaded $\pm 7\%$
long-term with cartridge loaded $\pm 3\%$
Start/Stop Time: <100MS @ 30 IPS

Physical Specifications

Power

AC requirement: 110 volts, 60 Hz., 1 Amp.
Dissipation: Typical - 50 Watts
Maximum - 60 Watts

Mechanical Dimensions

Depth : 17.5 in./44.45 cm.
Width: 9.1 in./23.2 cm.
Height: 5.3 in./13.5 cm.
Weight: 20.5 lbs./9.3 Kg.

Environmental

Operating Temperature: + 5 to + 45 °C
Storage Temperature: - 30 to + 60 °C
Relativity Humidity: 20% to 80% non-condensing
Altitude: - 200 to 15,000 feet

Media Specifications

Media

ANSI STANDARD X 3.55 - 1977 Cartridge Tape, 450 foot length, 1/4-inch width

MTBF

3500 hours

MTTR

30 minutes



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